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ABSTRACT

A simple, biocompatible system and procedure for generating nitric oxide (NO) is described. A mixture of powdered sodium nitrite, ascorbic acid, and maleic acid (or another organic acid of adequate strength) immediately generates nitric oxide (NO) on treatment with water. To slow down the NO generation, one may prepare an ointment from a nonaqueous medium (petrolatum, vaseline) and the three powdered ingredients, which on being applied topically on the skin will release NO as water permeates through this medium; alternatively, one may convert the aqueous sodium nitrite solution into a gel with hydroxyethylcellulose (or other gel-forming compound) and combine this gel with another gel obtained from aqueous ascorbic and maleic acids with hydroxyethylcellulose for topical application (on intact skin, burns, intra-cavity, *etc.*). The two gels may be admixed immediately before use (possibly from a single container with separate chambers and dual nozzle, *via* pushing or squeezing the two gels through the nozzle), or may be applied in sandwich-like fashion (possibly as a transdermal patch) for further slowing down the delivery of NO.

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